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Lee et al.

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(54) **HEAD LAMP FOR VEHICLE**

(56) **References Cited**

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U.S. PATENT DOCUMENTS

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2009/0021942 A1* 1/2009 Kim F21S 48/1258
362/268
2015/0308647 A1* 10/2015 Lee F21S 48/1159
362/518

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FOREIGN PATENT DOCUMENTS

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JP 2002-117710 B2 4/2002
JP 2012-216408 A 11/2012
JP 2013-187028 A 9/2013
JP 2013-200981 A 10/2013
KR 10-1181485 B1 9/2012
KR 10-1195110 B1 10/2012
KR 10-1295831 B1 8/2013

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* cited by examiner

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(58) **Field of Classification Search**
CPC F21S 48/125; F21S 48/137; F21S 48/145; F21S 48/1258; F21S 48/1317
See application file for complete search history.

(57) **ABSTRACT**

A head lamp for a vehicle may include a reflector coupled to a light source, and reflecting light emitted from the light source, a body coupled to the reflector, and disposed in front of the reflector, a lens coupled to the body, and disposed in front of the light source, a shield formed integrally with the body, positioned between the reflector and the lens, and shutting off a part of the light emitted from the light source which is reflected by the reflector, and a signal reflective surface formed integrally with an inner circumferential surface of the reflector, and reflecting the light emitted from the light source to an upper end portion of the lens.

5 Claims, 5 Drawing Sheets

